b. exposing the host cell to a cysteine blocking agent prior to step (c), wherein said cysteine blocking agent forms a mixed-disulfide with at least one cysteine residue in said soluble protein; and

A1 Cncld.

c. isolating the soluble protein from the host cell.

2. (Once Amended) The method of claim 1, wherein said step (b) of exposing comprises disrupting the host cell in the presence of the cysteine blocking agent, and wherein said step (c) of isolating comprises isolating the protein from the soluble fraction of the disrupted host cell.

3. (Reiterated) The method of claim 1, wherein exposing the host cell to a cysteine blocking agent occurs before, during or after synthesis of the soluble protein by the host cell and wherein the soluble protein is secreted from the host cell.

A2

4. (Once Amended) The method of claim 1, wherein said host cell is a bacteria, yeast, insect or mammalian cell.

5. (Once Amended) The method of claim 1, wherein said host cell is a bacteria cell.

6. (Reiterated) The method of claim 5, wherein said host cell is *E.coli*.

A3

7. (Once Amended) The method of claim 1, wherein said soluble protein is a recombinant protein.

8. (Reiterated) The method of claim 7, wherein said recombinant protein is a cysteine mutein of a member of the growth hormone supergene family, a derivative or an antagonist thereof.

9. (Reiterated) The method of claim 8, wherein said member is growth hormone.

10. (Reiterated) The method of claim 8, wherein said member is erythropoietin.

11. (Reiterated) The method of claim 8, wherein said interferon is alpha interferon alpha (IFN-α).

12. (Reiterated) The method of claim 8, wherein said alpha interferon is interferon alpha 2 (IFN-α2).

13. (Reiterated) The method of claim 7, wherein said recombinant protein is a cysteine mutein of a member of the TGF-beta superfamily, platelet derived growth factor-A, platelet derived growth factor-B, nerve growth factor, brain derived neurotophic factor, neurotrophin-3, neurotrophin-4, vascular endothelial growth factor, or a derivative or an antagonist thereof.

14. (Reiterated) The method of claim 7, wherein said recombinant protein is a cysteine mutein of a heavy or light chain of an immunoglobulin or a derivative thereof.

15. (Reiterated) The method of claim 1, wherein said cysteine blocking agent is a thiol-reactive compound.

16. (Reiterated) The method of claim 15, wherein said thiol-reactive compound is cystine, cystamine, dithioglycolic acid, oxidized glutathione, iodine, hydrogen peroxide, dihydroascorbic acid, tetrathionate, O-iodosobenzoate or oxygen in the presence of a metal ion.

17. (Reiterated) The method of claim 15, wherein said thiol-reactive compound is cystine.

18. (Once Amended) The method of claim 1, further comprising attaching a cysteine-reactive moiety to said isolated protein to form a cysteine modified protein.

19. (Once Amended) The method of claim 1, further comprising attaching a polyethylene glycol to said isolated protein to form a pegylated protein.

20. (Reiterated) A pegylated human growth hormone (hGH) or a derivative thereof having an EC_{50} of less than about 110 ng/ml.

21. (Reiterated) The pegylated hGH of claim 20, wherein the PEG moiety is attached to a C-D loop or a region proximal to Helix A of said hGH.

22. (Reiterated) A pegylated erythropoietin (EPO) or a derivative thereof having an EC_{50} of less than about 1000 ng/ml.

23. (Reiterated) The pegylated EPO of claim 22, wherein the PEG moiety is attached to a C-D loop or an A-B loop of EPO.

24. (Reiterated) A pegylated alpha interferon (IFN-α2) or a derivative having an EC_{50} of less than about 100 pg/ml.